

# TWO UPDATES - SALTWATER INTRUSION PLAN RECOMMENDATIONS

Adaptation and Resiliency Workgroup  
November 16, 2020

# STATE AGENCY SALTWATER INTRUSION WORKGROUP

- Planning - facilitator
- DNR
- DNR Maryland Geological Survey
- MDE
- MDA
- UMD Sea Grant
- UMCES
- UMD Agro-Ecology Center

# MCCC 2019 RECOMMENDATIONS

- Develop a report that presents specifics for how to establish and implement conservation easements in Maryland that *facilitate transitional land uses (e.g., saltmarsh) for salt-impacted farmland*

# MCCC 2019 RECOMMENDATIONS

- Develop the *first phase of a statewide wetland adaptation plan*, which would include marsh migration, and in some cases, measures to protect high priority wetlands in place, in response to sea-level rise inundation and salinization.

# COASTAL RESILIENCE EASEMENT

- Delineates and establishes a Wetland Adaptation Buffer on a property (consider modeling and monitoring data).
- Easement restricts activities within the buffer to allow for migration of coastal wetlands landward.
- DNR is the lead.

# COASTAL RESILIENCE EASEMENT

- First coastal resilience easement pilot project in Maryland established in 2013 on a property in Dorchester County.
- Second pilot project is underway and should be completed in late 2020 or early 2021.

# COASTAL RESILIENCE EASEMENT

- Current pilot project - to facilitate migration and establishment of ideal coastal wetlands:
  - Wetland Adaptation Buffer will restrict all activities except for the control of invasive species.
  - Wetland Adaptation Buffer may allow restoration if appropriate to the site.

# COASTAL RESILIENCE EASEMENT

- Coastal Resilience Management Plan concept:
  - Specific to the property.
  - Characterizes vulnerability and other parcel-scale attributes that are relevant to resiliency planning.
  - Management recommendations for Wetland Adaptation Buffer and other considerations.

# COASTAL RESILIENCE EASEMENT

- Coastal Resilience Management Plan concept:
  - Leverages research findings and management recommendations from the scientific community (Kate Tully/University of Maryland, Keryn Gedan/George Washington University, others)
  - Update the Management Plan every 10 years to evaluate changing conditions:
    - May adjust Wetland Adaptation Buffer area if necessary.
    - May update or revise buffer management recommendations.

# COASTAL RESILIENCE EASEMENT

- Data and modeling to assess success of easement approach over time.
- Wetland migration and shift in condition takes place over many years.
- Site visit at the 10-year mark to evaluate wetland extent and condition (then compare to Buffer area and management plan recommendations)

# MCCC 2019 RECOMMENDATIONS

- Develop the *first phase of a statewide wetland adaptation plan*, which would include marsh migration, and in some cases, measures to protect high priority wetlands in place, in response to sea-level rise inundation and salinization.

# MARYLAND WETLAND ADAPTATION PLAN

- First phase: develop overarching goals
- MDP facilitating discussions among subject matter experts and compiling draft materials for their review
- DNR and state agency saltwater intrusion workgroup
- Seeking ARWG feedback and guidance

# MARYLAND WETLAND ADAPTATION PLAN

- Revise and prioritize wetlands, based on new data, modeling, and analyses:
  - Priority wetlands that could be protected in place (those most resilient to climate change impacts).
  - Prioritize most important wetland migration corridors to protect.

# MARYLAND WETLAND ADAPTATION PLAN

- Criteria for priority wetlands that could be protected in place (those most resilient to climate change impacts):
  - *Blackwater 2100* plan criteria, such as greatest predicted longevity under sea level rise scenarios.
  - Maryland EESLR project findings, such as wetlands providing risk reduction benefits (e.g., wave attenuation).

# MARYLAND WETLAND ADAPTATION PLAN

- Criteria for priority wetlands that could be protected in place (those most resilient to climate change impacts):
  - GreenPrint (Parcel Evaluation Tool), Watershed Resources Registry.
  - U.S. Climate Alliance blue carbon grant - wetland carbon sequestration and storage.

# MARYLAND WETLAND ADAPTATION PLAN

- Criteria for priority wetlands that could be protected in place (those most resilient to climate change impacts):
  - Migratory bird habitat
  - Sediment dynamics

# MARYLAND WETLAND ADAPTATION PLAN

- Criteria for most important wetland migration corridors to protect:
  - Barriers to migration (current or future)
  - Likelihood of removing barriers
  - Forecast future land use changes and possible new barriers

# MARYLAND WETLAND ADAPTATION PLAN

- Criteria for most important wetland migration corridors to protect:
  - Maryland EESLR project findings regarding future wetlands that will provide risk reduction benefits (e.g., wave attenuation).
  - U.S. Climate Alliance blue carbon grant - future wetland carbon sequestration and storage.

# MARYLAND WETLAND ADAPTATION PLAN

- Identify human community needs for wetlands to inform and modify the above efforts so that equity concerns are addressed.
- Acknowledge that the above efforts are missing an ability to analyze other important wetland ecological services (which can also help us set priorities).

# MARYLAND WETLAND ADAPTATION PLAN

- Implement adaptive measures to protect existing priority wetlands and priority wetland adaptation areas:
  - For example, consult with the Maryland Port Authority and others regarding the possibility of bringing in sediment (e.g., from channel dredging) to particular areas (to protect priority wetlands in place)

# MARYLAND WETLAND ADAPTATION PLAN

- Inform fiscal needs to support implementation of adaptive measures:
  - For example, identify necessary level of incentives and/or funding for upgrades to water control structures on drainage ditches.

# QUESTIONS?

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